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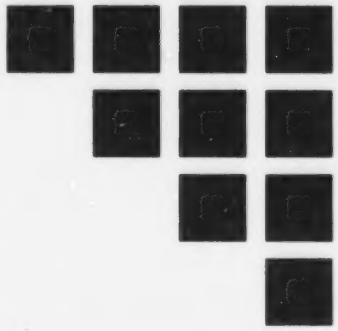


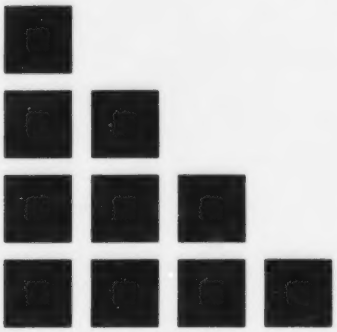
Labour-Market Responses to Volunteering: Regional Differences

R-00-5-2E

by
Rose Anne Devlin

June 2000

Research Paper



Human Resources Development Canada
Développement des ressources humaines Canada

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101-00643/

Applied Research Branch
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Rose Anne Devlin
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Printed/Imprimé 2000
ISBN: 0-662-29399-1
Cat. No./N° de cat. MP32-29/00-5-2E

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Abstract

It has already been established that the region in which an individual resides will affect his or her earnings. But will it affect the earnings differential accorded to volunteers on the paid labour market? This question is addressed by estimating selectivity-corrected earnings equations for volunteers and non-volunteers in five Canadian regions.

The paper finds that indeed a positive earnings differential exists between these two groups for each region in favour of volunteers. However, this differential varies quite significantly across regions—from about 13 per cent in British Columbia to 1 per cent in the Atlantic provinces.

This paper is the second in the two-part series on *Labour-Market Responses to Volunteering* which is comprised of:

- *Evidence from the 1997 SGVP*
- *Regional Differences*

Résumé

Il a déjà été établi que le revenu de travail d'un individu est influencé par sa région de résidence. Mais celle-ci influence-t-elle aussi les différences de revenu relevées chez les personnes qui participent à des activités bénévoles ? Afin de répondre à cette question, l'auteur estime des équations de gains pour chacune des cinq grandes régions du Canada. Les équations, corrigées pour le biais de sélection, sont estimées séparément pour les personnes qui font du bénévolat et pour celles qui n'en font pas.

Le document montre que dans chaque région les individus qui participent à des activités bénévoles perçoivent effectivement un revenu de travail plus élevé que les non-bénévoles. Cependant, cet écart de revenu en faveur des bénévoles varie sensiblement, allant de 13% en Colombie-Britannique à 1% dans les provinces de l'Atlantique.

Ce rapport fait partie de la série *Labour-Market Responses to Volunteering*, qui comprend les documents suivants :

- *Evidence from the 1997 SGVP*
- *Regional Differences*

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Executive Summary

This paper uses the recent Survey of Giving, Volunteering and Participating (SGVP) to determine if differences arise in the labour-market response to volunteering across regions in Canada. To this end, it includes observations on all individuals who are employed (either part-time or full-time) in this survey. Several points are worthy of note:

- The characteristics of volunteers differ quite substantially across regions; their participation rates vary from 30 per cent of the Quebec population of employed individuals to 45 per cent of employed individuals in the Prairies.
- The differences between volunteers and non-volunteers are relatively stable across all regions.
- In the probit model of the decision to volunteer, individuals respond differently according to the region in which they reside. For instance, being an immigrant is largely irrelevant for this decision in all regions except British Columbia and Ontario where it has a negative impact. The age of the individual also has different effects on the probability of volunteering, depending upon the region in question.
- All individuals are motivated to volunteer by the expected earnings differential.
- The earnings differential between volunteers and non-volunteers is estimated to be 13 per cent in British Columbia, 7 per cent in Quebec, 5 per cent in Ontario, 3 per cent in the Prairies and 1 per cent in Atlantic Canada. Clearly, regional differences in the responses to volunteering do indeed exist.
- It is unlikely that regional migration would dissipate any variations in earnings attributable to volunteering for two reasons: first, regional disparities are a fact of life in Canada despite a plethora of policies designed to mitigate them; and second, to the extent that the earnings differential arises as a result of networking, it would be virtually impossible to transfer a network of contacts from one region to another - hence removing any possible incentive to move in response to earnings differentials gained from volunteering.

1. Introduction

Volunteers earn a premium on the paid labour market in comparison to non-volunteers. Several reasons explain why this might be the case: volunteers may acquire skills that are valued by the labour market; the act of volunteering may emit a signal regarding some unobservable but desirable trait of the individual; or, by volunteering, individuals are exposed to a valuable network of contacts who aid them in furthering employment prospects. In any event, the paid labour-market is rewarding volunteers over and above their non-volunteering counterparts - a result that was first confirmed by Day and Devlin (1998) using the 1987 survey of voluntary activity (VAS), and subsequently corroborated by Devlin (2000) with the 1997 Survey of Giving, Volunteering and Participating (SGVP).

Devlin (2000) determines that, on average, volunteers earn more than 4 per cent higher earnings in comparison to their non-volunteering counterparts. To establish this figure, various earnings equations were estimated which included, among the usual determinants of earnings, dummy variables denoting the individual's region of residence. Moreover, the *decision* to volunteer was also estimated and regional dummy variables were included in those regressions as well. An individual's region of residence often proved to be a significant determinant of both earnings and the decision to volunteer.

Two questions naturally arise: what are the regional differences in the labour market responses to volunteering? And, why should the region in which an individual resides matter? It is the presence of a new and improved data set on volunteering that allows one to empirically investigate questions as specific as these. The empirical analysis focuses primarily on addressing the first question regarding regional labour-market responses to volunteering - a question that has, until now, been ignored in the literature; the econometric results are used to inform a discussion as to why regional differences may exist.

2. Data and Methodology

The Survey of Giving, Volunteering and Participating (SGVP) recently released by Statistics Canada provides an ideal source of data on various aspects of an individual's philanthropic activities. This survey was undertaken in 1997 and covers the activities of individuals in the November 1996 to October 1997 period. It is the most complete survey of its kind, containing responses from some 18,301 individuals who are representative of the Canadian population at large.[1] Because this study is interested in the labour-market responses to volunteering, the sample is restricted to those individuals who are employed on either a part-time or full-time basis at the time of the survey. Further restricting the sample to individuals who responded to questions of interest, resulted in a sub-sample of 9 945 individuals; the labour-market response to volunteers in this sub-sample formed the basis of the analysis in Devlin (2000) and lead to the conclusion that volunteers earn about 4 per cent higher incomes than do non-volunteers. In this paper, we continue to use this sub-sample to estimate any regional differences in this labour-market response.

The basic econometric model entails estimating earnings equations for volunteers and non-volunteers by region, as expressed in (1) and (2):

$$\ln W_{vi} = X_{vi}\beta_v + \epsilon_{vi} , \quad (1)$$

$$\ln W_{ni} = X_{ni}\beta_n + \epsilon_{ni} , \quad (2)$$

where X_{ji} is a vector of individual i's characteristics (including the stock of human capital) and ϵ_{ji} represents a normally distributed random component, j=v,n. The subscript v indicates that the individual is a volunteer, while n indicates a non-volunteer.

To ensure that sufficient numbers exist, Canada is separated into its five well-known regions: British Columbia, the Prairies (Alberta, Saskatchewan and Manitoba), Ontario, Quebec, and the Atlantic

[1] Details of this data set are available in Statistics Canada (1998). How this data set compares to the earlier VAS survey is discussed in Devlin (2000).

region (New Brunswick, Nova Scotia, Prince Edward Island, and Newfoundland and Labrador).[2] Equations (1) and (2) are estimated for each of these five regions in order to generate some estimates of the earnings differentials that exist across the country between volunteers and non-volunteers.

The problem with the model as depicted in (1) and (2), which has been discussed in detail in Devlin (2000), is that volunteers may not be drawn randomly from the population, introducing a selectivity bias into the earnings equations. Thus, we use a Heckman two-stage procedure in which inverse Mill's ratio is calculated from a probit estimation of the decision to volunteer, and introduced into the earnings equations. These earnings equations are used to estimate the earnings differential associated with volunteering, which is then included in a structural probit model to determine whether the expected earnings differential affects the probability of volunteering. In other words, to the extent that the expected earnings differential is a measure of the economic benefits associated with volunteering, we can determine if these benefits actually motivate individuals to engage in this sort of activity. Having established in Devlin (2000) that individuals do respond to the earnings differential, this paper explores any regional variation in this response.

The final point to note is that volunteers are over-represented in the SGVP data set because of the particular sampling technique used. As a result, it is extremely important to use the sample weights accompanying this survey in order to adjust for how 'representative' each observation is relative to the Canadian population at large. Thus, all of the estimation procedures undertaken in this analysis take account of sample weights.

[2] Data are not available for the Canadian territories.

3. Regional Variations in the Characteristics of Volunteers

To date, very little work has been done on regional differences in volunteering in Canada. The Statistics Canada "Nonprofit Sector Knowledge Base Project" is resulting in a number of research projects on various topics, including regional variations in volunteering. Reed and Selbee (1999) author one report which examines the profiles of so-called active volunteers - i.e., those who volunteer at least 66 hours annually - and find that volunteering does appear to vary on a regional basis. Indeed, one of the interesting findings of that paper is that the characteristics of active volunteers differ quite dramatically across regions: "... there is no single distinctive *pattern* of traits in the active volunteer; rather, volunteers are distinctive in different ways and to different degrees in different regions of the country and in different kinds of communities." (Reed and Selbee, 1999, p.9). A couple of papers have analysed regional variations in charitable donations (Kitchen and Dalton, 1990; Jones, 1999) and have reached the same conclusion, namely that variations do appear to exist and be significant. But overall, the work in this particular area is very sparse.

Before turning to the econometric analysis, it is instructive to look at the pattern of regional variation that exists in our particular sub-sample of employed individuals from the SGVP. Table 1 presents the average characteristics of volunteers and non-volunteers for each region and for Canada as a whole. (Table 2 reports the definitions for the mnemonics used). The first point to note is that volunteers typically have higher incomes, on average, than do non-volunteers - the only exception is the Atlantic region where the two groups have the same average income (in logarithms). There also appears to be a good deal of variation in this figure (keep in mind that we are reporting income in logarithms, thus small differences in this number result from large differences in the actual level of income) - ranging from 10.16 ($25 848) for volunteers in British Columbia to 9.90 ($19 930) for volunteers (and non-volunteers) in the Atlantic region. Interestingly, although volunteers have higher incomes, they tend to work fewer hours relative to non-volunteers - a pattern that persists across all five regions.

Except for in Quebec, relatively more females volunteer than males, ranging from 56 per cent in British Columbia and the Atlantic region to 47 per cent in Quebec. The non-volunteers are

Table 1

Average characteristics of volunteers and non-volunteers by region

Sample of employed individuals (9,945 observations)

Variables	*Canada*		*BC*		*Prairies*		*Ontario*		*Quebec*		*Atlantic*	
	Volun-teers	Non volun-teers	Volun-teers	Non volun-teers	Volun-teers	Non volun-teers	Volun-teers	Non volun-teers	Volun-teers	Non volun-teers	Volun-teers	Non volun-teers
LNINCOME	10.05	10.00	10.16	10.06	10.00	9.92	10.13	10.10	10.07	10.00	9.90	9.90
MALE	0.47	0.54	0.44	0.54	0.47	0.56	0.46	0.57	0.53	0.52	0.44	0.49
MARRIED	0.66	0.61	0.65	0.60	0.66	0.55	0.66	0.62	0.62	0.60	0.68	0.66
HOURS	35.88	37.75	34.38	36.08	36.66	38.77	35.57	38.17	35.55	36.21	36.16	38.73
HIGH	0.27	0.38	0.25	0.38	0.32	0.45	0.26	0.39	0.24	0.32	0.24	0.36
DIPLOMA	0.33	0.33	0.35	0.32	0.31	0.30	0.34	0.31	0.35	0.36	0.35	0.37
POSTSEC	0.13	0.11	0.17	0.14	0.14	0.10	0.13	0.12	0.12	0.09	0.13	0.09
UNIV	0.24	0.13	0.22	0.13	0.22	0.10	0.25	0.13	0.25	0.15	0.25	0.10
HHSIZE	2.99	2.69	2.85	2.64	2.97	2.67	3.06	2.81	2.85	2.53	3.07	2.74
OWNK05	0.24	0.27	0.23	0.23	0.26	0.28	0.25	0.29	0.23	0.25	0.22	0.28
OWNK0612	0.45	0.24	0.41	0.17	0.45	0.22	0.47	0.26	0.39	0.24	0.46	0.26
OWNK1317	0.21	0.13	0.22	0.10	0.22	0.13	0.21	0.12	0.20	0.14	0.23	0.15
OWNK18PL	0.12	0.10	0.10	0.09	0.09	0.08	0.13	0.11	0.15	0.10	0.14	0.11
EXP	19.18	19.38	19.31	20.65	19.13	18.83	19.49	18.95	19.15	19.89	18.72	19.50
RURAL	0.38	0.33	0.26	0.25	0.46	0.40	0.25	0.20	0.35	0.33	0.55	0.57
TOWN	0.14	0.14	0.22	0.18	0.07	0.06	0.16	0.16	0.18	0.17	0.15	0.16
CITY	0.48	0.53	0.52	0.57	0.47	0.54	0.59	0.64	0.47	0.50	0.30	0.27
Weighted participation rate	35%	65%	36%	64%	45%	55%	35%	65%	30%	70%	41%	59%

Table 2
Variable names and definitions

Mnemonic	Description
INCOME	The reported income of individual
MALE	Dummy variable, 1 if male, 0 otherwise
MARRIED	Dummy variable, 1 if married, 0 otherwise
GRADESCH	No school, or elementary school only: **reference group**
HIGHSCH	Dummy variable, 1 if high school (some or completed), 0 otherwise
POSTSEC	Dummy variable, 1 if some post-secondary education, 0 otherwise
DIPLOMA	Dummy variable, 1 if post-secondary diploma, 0 otherwise
UNIV	Dummy variable, 1 if university degree, 0 otherwise
HHSIZE	Number of individuals residing in the household
OWNK05	Number of own children ages 0-5 years old
OWNK0612	Number of own children ages 6-12 years old
OWNK1317	Number of own children ages 13-17 years old
OWNK18PL	Number of children ages 18 years old or older living at home
FRENCH	Dummy variable, 1 if language spoken in interview is French, **reference group**
ENG	English spoken in interview
EXP	Experience*
EXP^2	Experience squared
RURAL	Dummy variable, 1 if lives in area with a population of less than 15,000, 0 otherwise
TOWN	Dummy variable, 1 if lives in area with a population of 15,000-99,999, 0 otherwise
CITY	Population greater than 100,000: **reference group**
HOURS	Total usual weekly hours worked
NEWLAND	Dummy variable, 1 if landed immigrant within 3 years at time of survey
MEDLAND	Dummy variable, 1 if landed immigrant within 4 to 8 years at time of survey
OLDLAND	Dummy variable, 1 if landed immigrant over 8 years at time of survey
NEWRES	Dummy variable, 1 if lived in current residence less than 1 year, **reference group**
MEDRES	Dummy variable, 1 if lived in current residence 1 to 5 years
OLDRES	Dummy variable, 1 if lived in current residence more than 5 years
VOL	Dummy variable, 1 if individual volunteered in current year, 0 otherwise
GIVE	Dummy variable, 1 if individual gave at least one dollar to a registered charity, 0 otherwise
GOVT	Per capital provincial and local government spending by province, excluding debt and transfer payments

Note: The occupation variables (Science through Other) are dummy variables which take the value 1 if the individual worked in the given occupation and zero otherwise. We had data on 22 occupations which were grouped into 17 occupational categories (service occupations are the reference group). For the sake of brevity, we omit a detailed account of these groupings.

* We used the usual definition of experience (age - years of schooling - 6), where years of schooling were imputed for each level.

comprised mostly of men, except in the Atlantic region where only 49 per cent of non-volunteers are male. Most volunteers and non-volunteers are married; however, relatively more volunteers are married in comparison to the non-volunteer group. Another interesting point to note is that, on average, volunteers have more children relative to non-volunteers, and these children tend to be aged six to twelve years.

Volunteers are more highly educated in comparison to non-volunteers; indeed, about one-quarter of all volunteers have a university education in comparison to 13 per cent of non-volunteers. The regional variation in educational levels diminishing as the level of education increases: for instance, 24 per cent of volunteers in Quebec and the Atlantic regions have high school education while this figure is 32 per cent in the Prairies. The range is much tighter - 22 per cent to 25 per cent - for volunteers with university education.

There is a significant degree of regional variation in the population density of the areas in which respondents lived. In Ontario, 59 per cent of volunteers live in a *CITY* (defined as an urban centre with a population greater than 100,000) while 64 per cent of non-volunteers live in a *CITY*; in the Atlantic region only 30 per cent of volunteers and 27 per cent of non-volunteers live in a centre with a population great than 100,000. Naturally, this sort of variation reflects the population density of the different regions.

Finally, it is useful to note the participation rates reported in the last row of Table 1. These rates are calculated using sample weights so as to reflect accurately the proportion of the population that is volunteering. Just over one-third of employed Canadians volunteer. The participation rates in British Columbia and Ontario mirror the Canadian average. By contrast, more people in the Prairies and Atlantic Canada volunteer compared to the average Canadian, while fewer people in Quebec participate in voluntary activities. We return to these figures in our discussion of regional differences in earnings due to volunteering.

Table 3 indicates the percentage of volunteers in each region that volunteer for twelve different categories of organizations.[3] In all regions, most individuals volunteer for cultural groups (including

[3] Note that individuals may volunteer for more than one type of organization, hence the columns do not sum to 100.

recreation), followed by social service organizations. The pattern in Quebec is different than elsewhere: the difference between participation in cultural and social service organizations is much smaller in that province compared to the other regions, and the third organization, in terms of participation rate, is health groups in Quebec whereas for all other regions it is religious groups. In fact, there is an enormous difference in the participation rate of volunteers for religious groups in Quebec relative to the other regions. Overall, the pattern of volunteering is remarkably similar across the four regions.

Four points are useful to keep in mind. First, a good deal of variation is displayed in the characteristics of volunteers across the five regions in Canada; second, remarkable similarities exists in the relative differences between volunteers and non-volunteers within each of the regions; third, some interesting regional variation occurs in volunteer participation rates; lastly, the pattern of volunteering for different organizations is quite similar in all regions except Quebec. While raw data are useful for establishing patterns, they cannot help identify which factors affect, for instance, the decision to volunteer and by how much. We now turn to the econometric analysis of both the decision to volunteer and the earnings of volunteers and non-volunteers, on a regional basis.

Table 3
Volunteer Activities by Area: SGVP Data Set
(Weighted by Sample Weights)

Type of organisation	*BC*		*Prairies*		*Ontario*		*Quebec*		*Atlantic*	
	Participation rate	Average hours	Participation rate	Average hours	Participation rate	Average hours	Participation rate	Average hours	Participation rate	Average hours
CULTURAL	41%	48	45%	61	47%	51	41%	50	30%	32
EDUCAT	7%	7	7%	7	7%	6	6%	6	11%	10
HEALTH	18%	15	15%	10	17%	10	19%	15	18%	25
SOC.SER.	29%	31	29%	31	27%	23	28%	27	34%	45
ENVIRON	4%	3	5%	5	5%	3	4%	3	3%	2
DEVELOP	7%	7	7%	7	8%	7	5%	5	12%	13
LAW	5%	4	5%	5	4%	3	5%	6	5%	4
PHILANTH	4%	2	2%	1	3%	1	5%	3	3%	0
INTERNAT	1%	1	1%	2	1%	1	1%	1	2%	2
RELIG	21%	27	21%	33	26%	30	23%	29	10%	12
UNIONS	2%	1	2%	2	2%	2	2%	1	1%	1
OTHER	1%	1	0%	0	1%	1	1%	1	2%	2
# observations	10935		974		2872		3300		1558	

4. Econometric Results

As discussed previously, the econometric analysis of this problem has three separate components: a reduced-form probit model of the decision to volunteer, selectivity-corrected earnings equations for volunteers and for non-volunteers, and a structural probit model that takes account of the expected earnings differential. It thus seems sensible to discuss the decision to volunteer first before turning to the importance question of how regional labour markets respond to volunteering.

4.1 The Decision to Volunteer

The probit model includes all of the standard characteristics which are thought to influence the decision to volunteer, plus a few extra variables that are reported in the SGVP. The variables may be broadly categorized into three groups: personal, family, and labour market. The personal characteristics include sex, age, marital status, educational level, whether or not the individual donates money to charities (*GIVE*), whether or not the individual classifies him- or herself as 'religious' (*REL*), and whether or not the survey interview was conducted in English or French (*ENG*). We also include as explanatory variables in the probit model variables that denote if the individual is a recent immigrant of less than four years (*NEWLAND*), a medium-term immigrant of four to eight years (*MEDLAND*), or a long-term immigrant of over eight years *(OLDLAND)*. A final personal characteristic is the individual's tenure in his or her current residence: *NEWRES* is the reference group and denotes individuals who have been in their current residence for less than one year, *MEDRES* denotes those who have lived for one to five years in their current residence, and *OLDRES* denotes all others. These variables are included to capture the impact of community attachment, an important indicator of social capital, on volunteering.

Family characteristics include the number of individuals in the household (*HHSIZE*), and the number of children under six years of age (*OWNK05)*, six to twelve years of age (*OWNK0612*), thirteen to seventeen years of age (*OWNK1317*), and over eighteen years of age *(OWNK18PL)*. Labour market characteristics are important because we are estimating a reduced-form probit model that takes account of the fact that the expected earnings differential may influence the decision to volunteer. To this end, we include the occupation of the individual as represented by eighteen different classifications (services are the reference group).

Table 4 reports the reduced-form probit estimates for each of the five Canadian regions. The number of qualitative inter-regional differences that emerge among the various explanatory variables it is actually quite remarkable. For instance, being male has a positive impact on the decision to volunteer in Atlantic Canada and Quebec, but is statistically insignificant elsewhere. Being married has a negative influence in Ontario (at the 10 per cent level of significance) and Quebec, a positive influence (at 10 per cent) in the Prairies, and has no influence in the Atlantic provinces or in British Columbia. The impact of educational level is somewhat less pronounced in Quebec relative to the other regions, while the presence of older children seems to have a mixed impact across of all the regions.

Some interesting regional differences arise in the relationship between being an immigrant and deciding to volunteer. The pattern established elsewhere for Canada as a whole was that being an immigrant has a negative impact on volunteering, an impact that diminishes with time (Devlin, 2000). In the regional analysis, this pattern emerges exactly for British Columbia and is weakly consistent with the results in Ontario. Elsewhere, being an immigrant is largely an insignificant determinant of the decision to volunteer, except in the Prairies where being a medium-term immigrant appears to have a negative impact on this decision. In many ways, these regional differences are not surprising - most immigrants currently land in British Columbia or Ontario; the result in the Prairies may arise because the individual landed elsewhere in Canada but moved later on to the Prairies where he or she needed time to develop the knowledge required to be a formal volunteer.

Another Canada-wide pattern reported in Devlin (2000) relates to the impact of tenure in the same dwelling on volunteering. In every specification of the sub-sample, it was always the case that residence of less than five years did not affect the decision to volunteer, whereas residence of five years or more had a positive and significant impact on this decision. The effect of tenure on the decision to volunteer, however, does appear to differ across regions: the results in the Atlantic region, the Prairies, and Quebec broadly support the established pattern; however, tenure has no impact at all in British Columbia and, rather surprisingly, in Ontario being a medium-term resident has a weakly negative impact on volunteering (at the 10 per cent level of significance) relative to being a new resident. Furthermore, residing five years or more in the same dwelling has no impact on the decision to volunteer in Canada's most populous province. One can only

Table 4
Reduced-form probits: Decision to volunteer

Variables	*BC*		*Prairies*		*Ontario*		*Quebec*		*Atlantic*	
	est.coef.	t-ratio	est.coef.	t-ratio	est.coef.	t-ratio	est.coef.	t-ratio	est.coef.	t-ratio
MALE	-0.064	-0.54	0.023	0.36	0.065	1.09	0.315	3.78	0.208	2.59
MARRIED	0.046	0.39	0.119	1.69	-0.111	-1.65	-0.295	-3.30	-0.094	-1.10
HOURS	-0.007	-1.92	-0.010	-5.42	-0.011	-5.44	-0.007	-2.11	-0.012	-4.26
HIGH	0.639	1.29	0.588	3.08	0.542	3.06	0.123	0.69	0.578	2.92
DIPLOMA	0.866	1.75	0.745	3.83	0.726	4.08	0.272	1.51	0.735	3.66
POSTSEC	0.927	1.85	1.011	4.98	0.931	4.96	0.407	2.02	0.875	4.06
UNIV	1.225	2.41	1.116	5.46	1.027	5.47	0.656	3.22	1.268	5.75
OWNK05	-0.106	-1.13	-0.171	-3.38	-0.054	-1.16	0.057	0.83	-0.126	-1.95
OWNK0612	0.315	4.05	0.327	7.15	0.228	5.47	0.204	3.34	0.257	4.79
OWNK1317	0.348	3.47	0.174	3.16	0.330	5.60	0.159	2.24	0.123	1.81
OWNK18PL	0.063	0.57	0.053	0.86	0.055	1.03	0.304	3.89	0.214	2.98
RURAL	0.192	1.56	0.172	2.59	0.164	2.25	0.232	2.47	0.160	2.10
TOWN	0.017	0.13	0.170	1.54	0.071	0.85	0.123	1.06	-0.033	-0.31
MANAGER	-0.087	-0.46	0.118	1.07	-0.046	-0.45	0.041	0.27	-0.027	-0.22
SCIENCE	-0.151	-0.61	0.234	1.54	-0.118	-0.87	-0.084	-0.41	-0.440	-2.23
SOCSC	0.478	1.33	0.463	2.13	0.496	2.44	0.342	1.24	0.451	1.56
TEACH	0.361	1.20	0.528	3.35	0.344	2.32	-0.005	-0.03	0.532	2.86
RELIGION			0.154	0.51	0.796	1.55			1.390	2.18
HEALTH	-0.448	-1.91	0.108	0.80	0.010	0.69	-0.014	-0.08	0.120	0.77
ARTS	-0.542	-1.85	-0.036	-0.17	0.674	3.53	0.236	1.03	0.089	0.36
CLERK	-0.098	-0.55	-0.013	-0.12	-0.187	-1.91	0.199	1.46	0.083	0.70
SALES	-0.186	-1.00	0.096	0.84	0.072	0.66	-0.004	-0.03	0.031	0.24
PRIMARY	-0.140	-0.50	0.239	1.80	0.318	1.73	0.022	0.10	-0.039	-0.21
PROCESS	0.058	0.20	-0.516	-2.02	-0.410	-1.94	0.010	0.04	-0.263	-1.43
MACHINE	-0.195	-0.40	0.076	0.29	-0.541	-2.76	-0.139	-0.43	-0.599	-1.95
FABRIC	-0.514	-1.89	-0.057	-0.40	-0.406	-3.60	-0.364	-2.15	-0.128	-0.79
CONSTRUC	-0.231	-1.00	0.111	0.78	-0.120	-0.81	-0.092	-0.45	-0.190	-1.10
TRANSP	-0.228	-0.86	0.119	0.69	-0.520	-3.07	-0.559	-2.57	-0.096	-0.50
MATERIAL	-0.243	-0.59	-0.312	-1.50	-0.690	-3.39	-0.346	-1.17	0.110	0.39
OTHER			0.830	2.50	-0.645	-2.04	0.094	0.27	-0.020	-0.06

Table 4 (Continued)

Variables	*BC*		*Prairie*		*Ontario*		*Quebec*		*Atlantic*	
	est.coef.	t-ratio	est.coef.	t-ratio	est.coef.	t-ratio	est.coef.	t-ratio	est.coef.	t-ratio
NEWLAND	-1.534	-3.28	-0.225	-0.98	-0.237	-1.34	1.059	1.49	6.288	0.03
MEDLAND	-0.740	-2.39	-1.418	-3.87	-0.306	-1.79	-0.503	-0.73	0.064	0.11
OLDLAND	-0.395	-2.93	-0.116	-1.05	-0.260	-3.60	0.056	0.29	-0.005	-0.02
MEDRES	-0.042	-0.21	0.141	1.35	-0.193	-1.68	0.012	0.06	0.273	1.71
LONGRES	0.087	0.46	0.251	2.55	0.149	1.36	0.325	1.84	0.396	2.69
ENG			-0.370	-0.80	0.229	1.21	0.172	1.36	0.367	3.09
REL	0.090	0.94	0.244	4.25	0.187	3.47	0.168	2.32	0.389	5.31
AGE	-0.004	-0.87	-0.007	-2.62	0.004	1.65	-0.008	-2.04	-0.004	-0.99
GIVE	0.798	5.37	0.938	10.69	0.704	7.51	0.404	3.85	0.738	5.63
CONSTANT	-1.477	-2.47	-1.352	-2.59	-1.868	-6.42	-1.296	-4.23	-2.262	-7.01
# observations:	919		2587		3050		1635		1754	
Obs. at one:	328		1153		1054		405		721	
Log likelihood (0):	-598.69		-1777.9		-1966.2		-915.83		-1187.9	
Log likelihood:	-508.72		-1500.9		-1679.3		-838.36		-1033.7	

Table 5

Structural probit: Decision to volunteer

Variables	*BC*			*Prairies*			*Ontario*			*Quebec*			*Atlantic*		
	est. coef.	t-ratio	marg. eff.	est. coef.	t-ratio	marg. eff.	est. coef.	t-ratio	marg. eff.	est. coef.	t-ratio	marg. eff.	est. coef.	t-ratio	marg. eff.
EARNDIF	0.124	7.70	0.04	0.153	18.21	0.06	0.162	22.19	0.05	0.168	16.70	0.03	0.191	16.52	0.07
MALE	-0.078	-0.77	-0.03	-0.005	-0.08	-0.00	-0.049	-0.83	-0.02	0.181	2.13	0.04	0.058	0.77	0.02
MARRIED	0.056	0.48	0.02	0.105	1.47	0.04	-0.060	-0.86	-0.02	-0.039	-0.40	-0.01	-0.062	-0.69	-0.02
HOURS	-0.008	-2.04	-0.00	-0.009	-4.29	-0.00	-0.011	-5.06	-0.00	-0.007	-1.94	-0.00	-0.014	-4.78	-0.01
HIGH	0.744	1.58	0.26	0.653	3.40	0.25	0.400	2.11	0.13	0.246	1.31	0.05	0.597	3.02	0.23
DIPLOMA	0.970	2.07	0.34	0.806	4.14	0.31	0.615	3.25	0.21	0.403	2.14	0.08	0.769	3.91	0.29
POSTSEC	1.130	2.35	0.39	1.065	5.19	0.42	0.715	3.57	0.24	0.672	3.14	0.14	1.089	5.03	0.42
UNIV	1.428	2.99	0.50	1.330	6.58	0.52	1.055	5.41	0.35	0.796	3.96	0.16	1.404	6.69	0.54
OWNK05	-0.121	-1.31	-0.04	-0.140	-2.69	-0.05	-0.019	-0.38	-0.01	-0.017	-0.22	-0.00	-0.162	-2.43	-0.06
OWNK0612	0.314	4.07	0.11	0.287	6.09	0.11	0.231	5.26	0.08	0.233	3.50	0.05	0.249	4.49	0.09
OWNK1317	0.306	2.90	0.11	0.106	1.76	0.04	0.179	2.84	0.06	0.179	2.07	0.04	0.150	2.07	0.06
OWNK18PL	0.075	0.61	0.03	0.011	0.15	0.00	0.050	0.77	0.02	0.288	3.12	0.06	0.173	2.01	0.07
RURAL	0.083	0.67	0.03	0.246	3.84	0.10	0.173	2.39	0.06	0.026	0.27	0.01	0.061	0.76	0.02
TOWN	0.015	0.12	0.01	0.173	1.51	0.07	0.011	0.13	0.00	-0.087	-0.73	-0.02	-0.116	-1.02	-0.04
NEWLAND	-1.161	-2.55	-0.41	-0.018	-0.07	-0.01	-0.249	-1.09	-0.08	0.453	0.52	0.09	6.445	0.02	2.46
MEDLAND	-0.405	-1.22	-0.14	-1.066	-2.63	-0.42	-0.174	-0.83	-0.06	-0.417	-0.59	-0.09	-0.051	-0.09	-0.02
OLDLAND	-0.210	-1.50	-0.07	0.022	0.17	0.01	-0.193	-2.31	-0.06	0.087	0.31	0.02	0.439	1.84	0.17
MEDRES	0.073	0.37	0.03	0.186	1.66	0.07	-0.106	-0.85	-0.04	0.112	0.52	0.02	0.259	1.53	0.10
LONGRES	0.257	1.37	0.09	0.295	2.82	0.11	0.233	1.97	0.08	0.246	1.22	0.05	0.395	2.55	0.15

Table 5 (Continued)

Variables	*BC*			*Prairies*			*Ontario*			*Quebec*			*Atlantic*		
	est. coef.	t-ratio	marg. eff.	est. coef.	t-ratio	marg. eff.	est. coef.	t-ratio	marg. eff.	est. coef.	t-ratio	marg. eff.	est. coef.	t-ratio	marg. eff.
ENG				-0.076	-0.17	-0.03	0.008	0.41	0.00	0.231	1.48	0.05	0.165	1.34	0.06
REL	0.139	1.44	0.05	0.231	3.83	0.09	0.218	3.72	0.07	0.197	2.40	0.04	0.391	5.04	0.15
AGE	-0.006	-1.32	-0.00	-0.006	-2.13	-0.00	0.003	1.25	0.00	-0.005	-1.15	-0.00	-0.004	-1.13	-0.00
GIVE	0.717	4.75	0.25	0.871	9.36	0.34	0.697	6.63	0.23	0.445	3.74	0.09	0.627	4.47	0.24
CONSTANT	-1.830	-3.19	-0.64	-1.826	-3.59	-0.71	-1.802	-5.71	-0.60	-1.598	-4.73	-0.33	-1.822	-5.47	-0.70
# observations:	919			2587			3050			1635			1754		
Obs. at one.:	328			1153			1054			405			721		
Log likelihood (0):	-598.69			-1777.9			-1966.2			-915.83			-1187.9		
Log likelihood:	-484.62			-1311.8			-1388.6			-647.35			-879.57		

speculate as to what is going on in Ontario. It is clear from Table 1 that, in Ontario, more individuals live in a *CITY* (an area with a population of 100,000 or more) than elsewhere. People are often more mobile within a city than they are, say, in a rural area: apartment dwellers can easily move from a one-bedroom apartment to a larger one in the same area. Technically, therefore, they could be classified as a 'new' resident because they have only recently moved into their current dwelling, but they could, in fact, be established residents in the same community. As a consequence, the distinction between each classification of resident, and the presumed relationship between tenure in one dwelling and tenure in the same community, may be blurred.

It is interesting to note that the impact of age on the decision to volunteer differs quite markedly across the regions. Age does not appear to matter in the Atlantic provinces or in British Columbia; by contrast, it has a negative impact in the Prairies and Quebec, and a weakly positive one in Ontario. Finally, in all regions, if an individual donates money to charity then he or she is more likely to become a volunteer, suggesting that donating money and time are complementary activities.

In order to ascertain how any expected earnings differential may affect the decision to volunteer, estimates of this differential were computed from the earnings equation and then included in a structural probit analysis of the decision to volunteer. By and large, the results from the structural model accord with the results already presented from the reduced-form model. Table 5 reports the results from the structural probit model. For each region, the estimated coefficients are reported, their t-ratios and the marginal effect of the given variable on the probability of volunteering.

The variable of particular interest, however, is the impact of the differential itself (*EARNDIF*). In all cases, the estimated coefficient for *EARNDIF* is positive and statistically significant indicating that the estimated differential attributable to volunteering does indeed matter in the decision to volunteer - however, its impact varies quite a bit across regions. Interpreting the marginal effects for the earnings differential is a bit complicated because the differential is in logarithms. For instance, in Atlantic Canada, if the difference in earnings between volunteers and non-volunteers were to increase by 10 per cent (about $1,800), this would increase the probability of an individual deciding to volunteer by 0.07*0.10 or 0.7 per cent. In Quebec, the response to a 10 per

cent increase in the earnings differential in real terms (as opposed to logarithms) would elicit a much smaller response – a 0.3 per cent increase in the probability of volunteering.

4.2 The Labour Market Response to Volunteers

We are now in a position to assess how the labour market treats volunteers in relation to non-volunteers. To this end, separate earnings equations are determined for each group by region; these equations are estimated using a weighted least squares procedure corrected for sample selection. Any selection bias associated with the choice of whether or not to volunteer is taken into account by the inclusion of the inverse Mill's ration computed from the reduced-form probits previously estimated.

In order to present the results in a manner conducive to inter-regional comparisons, we report all of the earnings equations for volunteers by region in Table 6, and all of the non-volunteers earnings equations in Table 7. The only drawback with this presentation, is that one needs to consult both tables in order to compare across volunteers and non-volunteers; however, it does facilitate inter-regional comparisons, the principal focus of this paper.

Turning first to Table 6, we find several similarities and differences across the regions with respect to the determinants of volunteer earnings. As expected, being male has a positive influence on earnings in all regions. However, being married has no influence in the Atlantic provinces, the Prairies and Quebec, and a positive impact on earnings in British Columbia and Ontario. The number of hours worked has the expected positive sign across all regions. The impact of level of education is rather interesting: earnings increase with educational level in Ontario, having a university degree has a positive impact on earnings in Quebec, but elsewhere the level of education does not seem to be an important determinant of income. For Canada as a whole, however, earnings increase with educational level - a result which is apparently driven by the province of Ontario. That education does not affect earnings, *ceteris paribus*, is indeed a strange result: part of the explanation may simply be that occupational classification and other human-capital attributes dominate the model; another part may be tied to a variety of factors that explain persistent regional disparities in Canada. We return to this issue in the next section.

Table 6

Weighted OLS regressions: Dependent variable = log income
Volunteers' earning equations

Variables	*BC*		*Prairies*		*Ontario*		*Quebec*		*Atlantic*	
	est.coef.	t-ratio	est.coef.	t-ratio	est.coef.	t-ratio	est.coef.	t-ratio	est.coef	t-ratio
MALE	0.405	5.15	0.438	8.66	0.219	5.18	0.352	5.52	0.441	8.24
MARRIED	0.182	2.12	-0.095	-1.54	0.103	2.03	0.084	1.17	0.047	0.80
HOURS	0.025	8.81	0.022	12.38	0.023	14.41	0.023	10.46	0.024	12.02
HIGH	0.233	0.55	-0.311	-1.44	0.202	1.12	-0.072	-0.49	-0.155	-0.81
DIPLOMA	0.349	0.81	-0.158	-0.71	0.331	1.77	0.182	1.18	0.073	0.37
POSTSEC	0.280	0.64	-0.200	-0.86	0.334	1.72	-0.043	-0.25	0.129	0.63
UNIV	0.375	0.84	0.037	0.16	0.495	2.50	0.381	2.09	0.340	1.55
HHSIZE	-0.166	-3.09	-0.120	-4.42	-0.106	-5.36	-0.046	-1.47	-0.102	-4.47
OWNK05	0.210	2.65	0.224	4.62	0.175	4.49	0.094	1.67	0.169	3.43
OWNK0612	-0.012	-0.16	0.066	1.46	-0.023	-0.63	0.042	0.74	0.095	2.13
OWNK1317	0.118	1.29	0.090	1.86	-0.019	-0.42	0.091	1.47	0.111	2.19
OWNK18PL	0.080	0.82	0.157	2.81	0.032	0.73	0.009	0.13	0.174	3.34
EXP	0.033	3.05	0.054	8.09	0.044	7.36	0.061	7.54	0.042	5.42
EXPSQU	-0.000	-2.09	-0.001	-5.07	-0.001	-4.65	-0.001	-5.32	-0.001	-3.35
RURAL	-0.055	-0.65	-0.259	-5.00	-0.318	-6.21	-0.209	-2.98	-0.157	-3.23
TOWN	-0.185	-2.08	-0.229	-2.71	-0.100	-1.70	-0.130	-1.63	-0.023	-0.32
MANAGER	0.237	1.82	0.712	7.91	0.579	8.14	0.361	3.45	0.537	6.33
SCIENCE	0.094	0.54	0.455	3.81	0.734	7.55	0.400	2.88	0.399	2.81
SOCSC	-0.173	-0.88	0.290	1.96	0.410	3.43	0.062	0.38	0.462	3.01
TEACH	0.295	1.76	0.169	1.51	0.454	4.98	0.439	3.64	0.526	5.05
RELIGION			0.263	1.18	-1.283	-4.70			-0.227	-0.98
HEALTH	0.369	2.20	0.509	4.80	0.502	5.42	0.489	3.76	0.478	4.82
ARTS	0.209	0.83	0.057	0.34	0.318	2.63	0.057	0.39	0.062	0.41
CLERK	0.180	1.45	0.446	5.08	0.275	3.83	0.218	2.25	0.250	3.19
SALES	-0.118	-0.89	0.158	1.65	0.184	2.43	0.109	0.96	-0.119	-1.38
PRIMARY	0.125	0.65	0.270	2.63	0.046	0.38	-0.189	-1.23	0.189	1.50
PROCESS	0.040	0.20	0.834	3.39	0.708	3.93	0.449	2.87	0.141	1.00
MACHINE	0.028	0.07	0.245	1.09	0.759	4.26	0.075	0.32	0.307	1.18

Table 6 (Continued)

Variables	*BC*		*Prairies*		*Ontario*		*Quebec*		*Atlantic*	
	est.coef	t-ratio	est.coef	t-ratio	est.coef	t-ratio	est.coef	t-ratio	est.coef	t-ratio
FABRIC	0.079	0.36	0.044	0.35	0.618	6.72	-0.004	-0.03	0.397	3.40
CONSTRUC	-0.099	-0.58	0.378	3.21	0.509	4.42	0.178	1.27	0.296	2.30
TRANSP	0.486	2.35	0.304	2.15	0.436	2.97	0.244	1.31	0.031	0.23
MATERIAL	-0.522	-1.51	0.297	1.52	0.800	4.04	-0.278	-1.15	-0.166	-0.88
OTHER			0.360	1.75	0.523	1.92	0.119	0.51	0.338	1.57
INVMILLS	-0.460	-2.79	-0.509	-4.62	-0.317	-3.11	0.021	0.13	0.003	0.03
CONSTANT	9.053	17.76	8.933	30.55	8.537	34.04	8.130	25.60	8.204	30.71
# observations	614		1876		1976		846		1193	
Adj.R-square	0.3345		0.3856		0.4099		0.4735		0.5183	

Table 7

Weighted OLS regressions: Dependent variable = log income
Non-volunteers' earning equations

Variables	*BC*		*Prairies*		*Ontario*		*Quebec*		*Atlantic*	
	est.coef.	t-ratio	est.coef.	t-ratio	est.coef.	t-ratio	est.coef.	t-ratio	est.coef.	t-ratio
MALE	0.425	3.84	0.381	6.16	0.323	5.83	0.321	5.42	0.351	5.58
MARRIED	0.117	1.14	0.052	0.82	0.066	1.07	0.231	3.80	0.105	1.65
HOURS	0.019	5.01	0.017	9.40	0.024	10.48	0.018	7.35	0.013	5.17
HIGH	0.366	1.24	-0.060	-0.44	-0.008	-0.06	0.075	0.73	0.064	0.54
DIPLOMA	0.365	1.21	-0.045	-0.30	0.133	0.93	0.216	1.92	0.194	1.46
POSTSEC	0.393	1.29	-0.127	-0.76	0.035	0.23	0.211	1.64	0.201	1.30
UNIV	0.399	1.22	-0.021	-0.12	0.202	1.21	0.505	3.50	0.434	2.38
HHSIZE	-0.134	-3.73	-0.115	-4.29	-0.090	-4.07	-0.042	-1.38	-0.108	-3.30
OWNK05	0.056	0.62	0.185	3.80	0.256	5.58	0.038	0.76	0.147	2.70
OWNK0612	0.144	1.35	-0.005	-0.08	0.040	0.75	0.062	1.13	0.031	0.51
OWNK1317	-0.026	-0.24	0.010	0.15	-0.025	-0.32	0.044	0.76	0.066	1.02
OWNK18PL	0.140	1.28	0.203	3.00	0.044	0.82	-0.039	-0.56	0.080	1.13
EXP	0.042	3.17	0.034	5.24	0.041	5.57	0.046	6.06	0.037	4.72
EXPSQU	-0.001	-2.06	-0.000	-3.93	-0.001	-3.97	-0.001	-4.39	-0.001	-3.32
RURAL	-0.341	-2.90	-0.098	-1.51	-0.297	-3.99	-0.189	-2.87	-0.159	-2.64
TOWN	-0.068	-0.55	-0.061	-0.56	-0.160	-1.98	-0.228	-2.92	-0.017	-0.21
MANAGER	0.662	3.73	0.512	4.91	0.546	5.58	0.460	4.76	0.553	5.89
SCIENCE	0.733	3.32	0.666	4.47	0.473	3.58	0.346	2.60	0.192	1.25
SOCSC	0.684	1.40	0.276	1.03	-0.231	-0.87	0.107	0.45	0.258	0.88
TEACH	0.969	2.47	0.268	1.50	0.455	2.48	0.487	3.97	0.287	1.64
RELIGION			0.186	0.64	0.094	0.12			0.697	0.75
HEALTH	0.977	4.50	0.558	4.46	0.623	4.35	0.625	5.34	0.447	3.58
ARTS	0.654	2.73	0.004	0.02	-0.087	-0.39	0.321	1.84	0.227	1.08
CLERK	0.302	1.85	0.172	1.76	0.279	3.04	0.383	4.13	0.333	3.63

Table 7 (Continued)

Variables	*BC*		*Prairie*		*Ontario*		*Quebec*		*Atlantic*	
	est.coef.	t-ratio	est.coef.	t-ratio	est.coef.	t-ratio	est.coef.	t-ratio	est.coef.	t-ratio
SALES	0.049	0.30	0.165	1.64	0.047	0.45	0.127	1.26	-0.003	-0.03
PRIMARY	0.208	0.88	0.174	1.34	0.113	0.58	0.029	0.21	0.199	1.57
PROCESS	0.349	1.59	0.461	2.75	0.422	2.60	0.162	1.03	0.128	0.98
MACHINE	1.825	4.85	0.837	3.49	0.395	2.66	0.028	0.14	0.246	1.28
FABRIC	0.573	2.79	0.248	2.19	0.406	4.08	0.079	0.77	0.183	1.62
CONSTRUC	0.233	1.14	0.088	0.71	0.177	1.33	0.196	1.48	0.292	2.37
TRANSP	0.098	0.45	0.096	0.65	0.265	1.93	0.299	2.48	0.330	2.38
MATERIAL	0.218	0.70	-0.023	-0.15	0.250	1.69	0.314	1.97	0.106	0.48
OTHER			0.351	0.93	0.403	1.71	0.007	0.03	-0.001	-0.01
INVMILLS	-0.208	-0.93	-0.505	-4.36	-0.587	-3.84	-0.362	-1.71	-0.131	-0.89
CONSTANT	8.075	20.79	8.457	45.01	8.079	42.60	8.110	46.81	8.574	47.21
# observations	305		711		1074		789		561	
Adj.R-square	0.4353		0.4164		0.3910		0.3621		0.3560	

Household size has a negative impact on earnings in all regions except Quebec - a result that may be partly explained by the generous child-care subsidies available in that province. The other determinants of earnings behave largely as expected. The only other difference worthy of note concerns the selectivity variable *INVMILLS*. In all of the analysis undertaken in Devlin (2000), selectivity was a problem. Here, however, we see that for two regions - the Atlantic and Quebec - no selectivity bias is present.

Looking at Table 7 we also find some notable inter-regional differences across the determinants of earnings for non-volunteers, as well as differences in comparison to the volunteer groups. For instance, being married has a weakly positive influence in Atlantic Canada, no influence in British Columbia or Ontario, and a strong positive influence in Quebec - a pattern that differs rather significantly from that displayed for the volunteer groups. The level of education is completely irrelevant in British Columbia, the Prairies and Ontario, while having a university degree exerts a positive impact on earnings in Atlantic Canada and Quebec. Once again, the size of the family has a negative impact on earnings everywhere except Quebec. Finally, some inter-regional differences exist regarding selectivity bias: no bias is found in the Atlantic region or in British Columbia for the non-volunteers, and the estimated coefficient on *INVMILLS* is significant at the 10 per cent level in Quebec.

It seems clear, therefore, that important differences exist across Canada's five regions - differences that are not revealed when using Canada-wide data. In order to compute the estimated earnings differential attributable to volunteering for each region, we employ the well-known Blinder (1973)-Oaxaca (1973) decomposition procedure which allows one to determine whether earnings increase because an individual has a higher 'stock' of human capital relative to average - the stock effect -, or whether earnings increase because an individual earns a greater return to his or her average stock of human capital - the 'return' effect. This decomposition procedure has been used extensively in studies of earnings gaps due to, for instance, gender (e.g., Miller, 1987), and entails determining the following:

$$\overline{lnW}_{vi} - \overline{lnW}_{ni} = X_i(\hat{\beta}_v - \hat{\beta}_n) , \qquad (3)$$

which can be rewritten as:

$$\hat{lnW}_{vi} - \hat{lnW}_{ni} = \hat{B}_v(\bar{X}_v - \bar{X}_n) + \bar{X}_n(\hat{B}_v - \hat{\beta}_n) \quad (4)$$

where a bar denotes the sample mean, and a hat denotes the OLS estimate of the coefficient. The first term on the right-hand size represents the "stock effect" and second term the "return effect."

Table 8 presents these two effects for each of the five regions. Note that various effects are summed together for the sake of brevity - hence "education" is comprised of the impact associated with each of the four levels of education included in the earnings equations. A positive sign means that the volunteer has the higher stock (or return) in comparison to the non-volunteer, whereas a negative sign means the converse. Thus, for instance, the negative sign for *MALE* in the stock columns for every region but Quebec means that there are fewer male volunteers in all provinces but Quebec relative to male non-volunteers.

Many of the differences already discussed with respect to the earnings equations are further revealed by this decomposition procedure. Male volunteers earn a lower return to being male in British Columbia and Ontario, and a higher return in the other three regions. The impact of being married also differs across regions. Notice that, in all regions volunteers work fewer hours relative to non-volunteers, and in all but one region - Ontario - volunteers gain a higher return for any given hour worked relative to non-volunteers. Ontario also stands out as the only region where the return to education is higher for volunteers than non-volunteers; the 'stock' of education is higher in all regions for volunteers.

The main reason for undertaking this decomposition procedure is that it allows one to calculate the overall difference in expected earnings between volunteers and non-volunteers, taking into account the differences in characteristics across the two groups. The last row entitled "average effect" provides this difference in the log of earnings; these numbers are approximately equal to percentages for small changes.[4] For Canada as a whole, the estimated differential is 4.25 per cent

[4] This estimate of the earnings differential is approximated by ($\ln W_v$ - $\ln W_n$)*100. Technically speaking, because earnings are in logs, the actual differential should be calculated as (exp ($\ln W_v$ - $\ln W_n$) - 1)*100. When the differential is small, the approximation method is accurate.

when the country is separated into its five main regions, we find considerable inter-regional variation in the differentials. They range from 12.52 per cent in British Columbia to 1.17 per cent in the Atlantic provinces. Quebec has the second highest labour-market return to volunteering - 6.51 per cent; followed by Ontario (4.91 per cent) then the Prairie provinces (3.13 per cent). Why do regional differences exist in labour-market responses to volunteering? The following section offers some suggestions and concluding remarks.

Table 8

Decomposing the volunteer/non-volunteer earnings differential by region

Variables	*BC*		*Prairies*		*Ontario*		*Quebec*		*Atlantic*	
	Stock effect (%)	Stock effect (%)	Stock effect (%)	Stock effect (%)	Stock effect (%)	Stock effect (%)	Stock effect (%)	Stock effect (%)	Stock effect (%)	Stock effect (%)
MALE	-4.03	-1.09	-3.90	3.22	-2.33	-5.89	0.43	1.61	-2.18	4.45
MARRIED	0.91	3.90	-1.05	-8.12	0.44	2.27	0.21	-8.79	0.08	-3.89
HOURS	-4.19	21.05	-4.60	18.52	-6.08	-2.28	-1.55	17.25	-6.23	43.20
EDUCATION	2.38	-7.43	3.42	-14.73	4.50	21.97	4.23	-9.99	7.41	-14.00
FAMILY	-2.27	-6.68	-1.38	1.90	-3.90	-8.42	-0.35	0.97	-0.96	5.68
EXPERIENCE	-0.45	-13.00	3.50	27.15	1.60	7.80	-0.04	16.66	-0.38	8.29
POPULATION	-0.79	5.05	-1.80	-7.49	-1.52	0.50	-0.65	1.06	0.30	0.07
OCCUPATION	1.00	-28.62	2.01	8.43	-3.36	12.47	14.23	-7.30	4.41	-0.85
INVMILLS	-63.99	13.08	-69.82	0.30	-44.72	-14.03	3.26	-15.23	0.43	-7.59
CONSTANT		97.71		47.57		45.86		2.02		-37.07
Total	-71.44	83.97	-73.60	76.74	-55.36	60.28	8.25	-1.74	2.88	-1.71
Average effect	**12.52**		**3.13**		**4.91**		**6.51**		**1.17**	

5. Why Regional Differences? Some Comments and Conclusions

One of the characteristic features of the Canadian landscape is regional diversity - in physical terms, of course, but more importantly in terms of economic well-being. Some regions in Canada are wealthier than others; and while there is some evidence to suggest that the relative differences in economic well-being appear to be disappearing over time, absolute differences continue to persist (Day and Coulombe, 1999). A literature exists that attempts to explain these differences in terms of labour (im)mobility (e.g., Dickie and Gerking 1998), looking at inter-regional migration in response to unemployment benefits and federal government transfers (e.g.,Winer and Gauthier, 1982), and various other fiscal variables.[5] In spite of many policies designed to reduce regional inequalities, they persist - migration is simply insufficient to equilibrate economic variables, like wages, across regions. Several factors can explain persistent differences in remuneration: mobility costs, production costs, government transfers, and, of course, tastes. Dickie and Gerking (1998) suggest that mobility costs play an important role in maintaining persistent wage differences across regions, especially as an individual ages: for an older person who perhaps has seniority or a locked-in pension plan, it is simply too expensive to move even for a higher-paying job.

Given that regional differences exist in several economic measures, and most notably in earnings, it is not very surprising that regional labour markets also respond differently to volunteers. Thus, even though volunteers in, say, British Columbia are paid a premium that exceeds the premium paid to volunteers in, say, the Prairies, we would not expect that this premium would be sufficient to induce workers to move west - for the same reasons that workers do not necessarily move to earn higher salaries, i.e., mobility costs and personal preferences.

Moreover, to the extent that the labour-market premium arises because of the contacts made while volunteering, this mechanism is not transferable and thus the presence of higher differentials elsewhere would not induce volunteers to move to the region with the highest premium. Someone moving to another region would have to foster a new network to enhance his or her employment opportunities in the new region.

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[5] A useful review of migration papers is contained in Day and Winer (1994)

Regional differences, therefore, will not be removed through inter-regional migration - thus differences in labour-market responses to volunteering may well persist over time. But why do these markets treat volunteers differently across the regions? Part of the answer may lie in the fact that the characteristics of individuals who volunteer differ quite remarkably across the regions. Part of the answer may lie in the characteristics of the labour market itself. In tight markets where employers find it difficult to recruit high-quality workers, volunteering may provide contacts through which better 'matching' may occur; in markets with a glut of highly-skilled workers, the role of the network may be less valuable in matching workers to jobs. It is not surprising, for instance, that the earnings differential between volunteers and non-volunteers is very small in Atlantic Canada: the lack of jobs and employment opportunities may serve to reduce the importance of networking through volunteering.

This paper is the first of its kind to examine the regional labour-market responses to volunteering in Canada. In some ways, its basic result is not surprising: the response to volunteering varies across regions. The largest earnings differential between volunteers and non-volunteers occurs in British Columbia (12.52 per cent) whereas the lowest is in Atlantic Canada (1.17 per cent). In spite of these regional differences, all individuals, irrespective of region of residence, are motivated to volunteer in anticipation of this earnings differential.

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